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# Soviets Push Telemetry Bypass

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Washington—Capability to tape record telemetry data onboard ballistic missiles and parachute the tapes to earth is being developed by the Soviet Union. It may already have been tested on an intercontinental missile. Such a system could make verification of a Strategic Arms Limitation Treaty impossible.

The new wrinkle in Soviet efforts to avoid U. S. interception of telemetry data during ICBM tests comes at a time when the U. S. already has agreed to permit Soviet encryption of some telemetry data. It also comes as a national debate is heating up over the second strategic arms agreement now in the negotiating home stretch, according to Administration officials.

The officials explained that the USSR has developed a system they describe as "a tape bucket." After staging during the test of an ICBM, a capsule is jettisoned with the telemetry data for that portion of the flight. A parachute deploys on the capsule, and it homes on a beacon. Reentry vehicles carry telemetry information on the final phase of the test and are recovered after parachute landing in the target area.

Soviet ICBMs are launched from Tyuratam and guided to the target area on the Kamchatka Peninsula.

Verification of the SALT 2 agreement is a major issue surfacing among Senate members, and assurance of U. S. ability to monitor Soviet compliance with the treaty is central to achieving ratification in the Senate.

"The USSR has been working on the tape bucket recovery system ever since it discovered how dependent the U. S. is on interception of telemetry data," a U. S. strategic weapons expert said. "This adds

insult to injury, because the U. S. SALT 2 negotiations have already agreed to permit the Soviet Union to transmit telemetry data encrypted on channels not specifically related to the contents of the agreement. As an example, accuracy of ICBMs is not related to the verification issue and the Russian negotiators have cited this as data they should be permitted to encrypt before transmission."

Both the first strategic arms agreement and the second treaty as it has been negotiated prohibit interference with either side's means of verification. But serious questions have been raised by the U. S. on two occasions over transmission of ICBM test data when it was determined the information had been encrypted.

The most recent occurrence was during a test with the heaviest Soviet ICBM—the SS-18, the ballistic missile that poses the most serious threat to the U. S. Boeing Minuteman ICBM force. That test took place in December, 1978, as Secretary of State Cyrus Vance was meeting on SALT

agreement compliance.

After the encryption issue was raised by the U. S. the USSR ceased encryption of telemetry data until the most recent tests.

The U. S. position has been that neither side is permitted to take more rigorous action to conceal strategic arms development and deployment activities than at the time SALT 1 was signed.

"Because the Soviets have raised the issue that they will be permitted to encrypt all telemetry data not specifically related to verification," an Administration official said, "the U. S. position is to assume that encrypted channels will not preclude the U. S. from verifying compliance."

The real nub of the problem, an official explained, is that there are approximately 50 channels of telemetry data transmitted and recorded during an ICBM test. "The Soviets have been using a one-time code for telemetry encryption, which makes it all but impossible to decipher," he said. "If we permit encrypted transmission on some channels, how can we be certain that some of that data are not related to verification? Suppose, for example, that we lose the fuel flow data because of encryption. Then range calculation, throw weight and launch weight of the missile will be hard to determine."

The official added that the U. S. has a secret method for determining the ballistic missile's accuracy without the telemetry data, so that is not a major concern.

"The real question, however, is not whether we can determine accuracy via another method," he said, "but rather [that] it raises serious questions over Soviet motives when it comes to taking advantage of every possible loophole in the agreement. This tape recovery system being perfected is a good example." It is not specifically precluded as the agreement is now structured.

In recent weeks, the Carter Administration has been banking on the use of the Air Force/Lockheed U-2 high-altitude reconnaissance aircraft with new antenna arrays to intercept telemetry data from Soviet ICBM tests. The aircraft would be used as an interim replacement for the electronic intelligence facilities lost in